Chapter 6

Alternate Means of Communications

6-1. General

Numerous alternate means of communications are available to the field commander. The most commonly used will be addressed in the following paragraphs.

6-2. Messenger Service

Messenger service is one of the oldest and most effective alternate means of communications but is no longer a dedicated Signal Corps responsibility. Commanders can greatly enhance their ability to control their units by effectively using all types of messengers from all battalions and staffs.

a. The need for messengers is inversely related to our desire and/or ability to use radio. There are many disadvantages in relying too heavily on radio communications. Messenger service is an important consideration for combat operations. With the EMP effect becoming more of a tactical probability than a possibility, messenger service may become the only viable communications after the initial outbreak of wartime hostilities.

(1) Advantages to messenger service are as follows:

(a) Permits delivery of lengthy, bulky items not requiring immediate action; or requiring lengthy transmission times, such as, operation plans, map overlays, administrative/logistical matters, and reports.

(b) Reduces the need for using radio.

(c) Reduces mutual radio interference by reducing radio traffic and transmission time.

(d) Reduces the enemy's EW capability by--

- Providing a secure communications means which is not subject to EW.
- Deferring exposure of critical nets until they become urgently needed.
- Making it more difficult for the enemy to identify critical nets.

(2) Disadvantages to messenger service are as follows:

(a) Slower than electrical means.

(b) Subject to enemy action, terrain, and weather conditions.

(c) Requires dedicated equipment and trained personnel.

b. The type of messengers employed is determined by the urgency, bulk of messages, the terrain, the weather, and the availability of transportation.

(1) Foot messengers are used for CP distribution and in small units.

(2) Motor messengers are used between headquarters.

(3) Air messengers are used to speed up delivery over long distances, over difficult terrain, over enemy controlled territory, or for vital or urgent messages.

c. The types of service available by messengers, usually at EAC, are scheduled, special, and exchanged.

(1) Scheduled messengers follow prearranged and published time schedules, travel designated routes, and stop at predesignated points and headquarters. They normally deliver and pick up message traffic at TCCs or exchange points.

(2) Special messengers are used when scheduled service has not been established or to augment scheduled service. They are employed when the urgency of a message will not allow the message to wait for scheduled messenger service or transmission by other communication means.

NOTE: Couriers transporting COMSEC or classified materials orders IAW AR 66-5.

(3) Exchanged messengers are exchanged between specified headquarters when personnel and vehicle assets permit. These messengers would know routes back to their parent headquarters and would deliver high priority messages only.

d. Additional sources of messenger service should be considered.

(1) Personnel should never leave a CP en route to another unit without consulting the TCC for possible message traffic for that unit. Liaison officers can assist during times of limited messenger resources.

(2) Certain designated headquarters act as clearing houses and reroute points for messages. This allows unit messengers to pick up and deliver to these points, freeing dedicated messengers for more frequent delivery and pickup between relay points.

(3) Commanders should identify those organic assets which in an emergency could be used for messenger purposes. They should provide necessary training and planning so these assets can be effectively used when needed. All assets should be considered for the role; for example, the commander's vehicle and driver and the S3's vehicle and driver.

6-3. Visual Signaling

An alternative to electronic communications is visual signaling. This form of communications has been used extensively throughout the history of military operations. However, the flexibility, range, and speed of today's radios have reduced the use of visual signaling. Few units today would be capable of establishing a working system of visual communications without first conducting extensive planning and training.

a. Visual signaling systems normally require simple equipment. They provide timely point-to-point communications over the distances usually associated with company, battalion, and sometimes brigade and division deployments. They are not normally susceptible to EMC and EMP problems and are relatively reliable in many combat situations. Training requirements vary with the systems used and can be taught at unit level.

b. Visual signaling is not a cure-all. Numerous limitations need to be recognized. Visual signaling sites must be within LOS of each other and the signal means used must be distinguishable at the desired range. Fog, rain, snow, smoke, and background light conditions can reduce effective ranges.

c. Visual signaling cannot adequately handle the mass of routine communications between echelons, but it can be used as an alternate means to pass the high priority messages that may affect the tactical situation. Units should consider their requirements for continuous command communications, then develop a visual system that will provide an effective backup to their current systems. Realistic training of personnel and frequent practice during training exercises enhance a commander's ability to maintain effective control of assigned and attached units.

d. Visual signaling systems employing flashing lights of various types are most effective because they provide distinguishable signaling at great ranges. Several field expedient visual signaling devices are readily available to the tactical command.

(1) Any standard flashlight can be pulsed in a controlled manner and can normally be seen over several hundred meters in daylight and up to two or more

kilometers at night. A more directional beam can be obtained by attaching any sort of cylindrical extension.

(2) Any other light source, including chemical lights, that can be keyed is also usable. An example is a vehicle headlight used with a keying device and a director to provide long-range signaling.

e. Reception of visual signals can be enhanced using readily available devices.

(1) A pipe or other device pointed directly at the visual source can be used to limit the receiver's susceptibility to distraction. Such a device should be stabilized to prevent movement while in use.

(2) Binoculars assist in distinguishing the signals at greater ranges. At night, the use of ambient light devices such as night vision goggles AN/PVS-5 or night vision sight AN/PVS-4 can greatly extend the system's range. The PVS-5 or PVS-4 is authorized in many divisional units including infantry/ mechanized, infantry battalions, engineer battalions, division artillery units, cavalry and air cavalry troops, and air defense artillery battalions.

f. A flashing light system can be both an asset and a liability.

(1) Flashing light signaling sites will often be visible from enemy positions and appropriate safeguards must be planned. Using infrared or near infrared sources and receiving devices will prevent unaided observation; however, most potential adversaries also use the infrared spectrum and can observe these signals.

(2) Visual signaling sites should be remoted from CP locations to maintain CP location security. Remoting may also be required to attain LOS.

(3) Portability and weight of equipment used is an asset. If the equipment can readily be mounted in trees or on antenna towers, LOS may be more easily attained.

(4) Communications between the signal site and CP is mandatory. Wire is strongly recommended, but short-range radio or a messenger could be used.

(5) Messages prepared for transmission by visual means should be as short as possible to facilitate the slower transmission speed and concentration required to copy at long ranges. Properly encrypted brevity codes should be used.

(6) Flashing light systems can use directional or nondirectional devices. Nondirectional equipment will generally provide less range, but can be used to transmit to more than one receiver simultaneously.

(7) All signal sites should be manned by a minimum of two personnel to enable one to focus attention on the distant sender and the other to record or relay the message over the telephone as it is received.

(8) Operators must be trained in the transmission and reception of code.

6-4. Panel Signaling

Panel signaling is used primarily between ground troops and aircraft. Its use is very limited and is covered by instructions in the unit's SOI. Care must be exercised in panel use to ensure that the panels can easily be seen from aircraft and that the hovering aircraft do not disclose CP or signal site locations when reading the panels.

6-5. Pyrotechnic Signaling

Pyrotechnic signaling uses colored smoke, colored and combinations of star clusters, or parachute flares. This kind of signaling is limited to prearranged signals. These signals are prescribed at command-, corps-, division-, brigade-, battalion-, and, under certain conditions, company-level. Meanings of signals are provided in the SOI or operation orders. Continual reassessment for completeness and adequacy of this signal system is encouraged.